

An interceptor missile roars aloft from Meck Island — part of the Kwajalein-based Reagan Test Site — during a mid-March test undertaken as part of the Ground-based Midcourse Defense program.



KWAJALEIN:

More Than Rocket Science

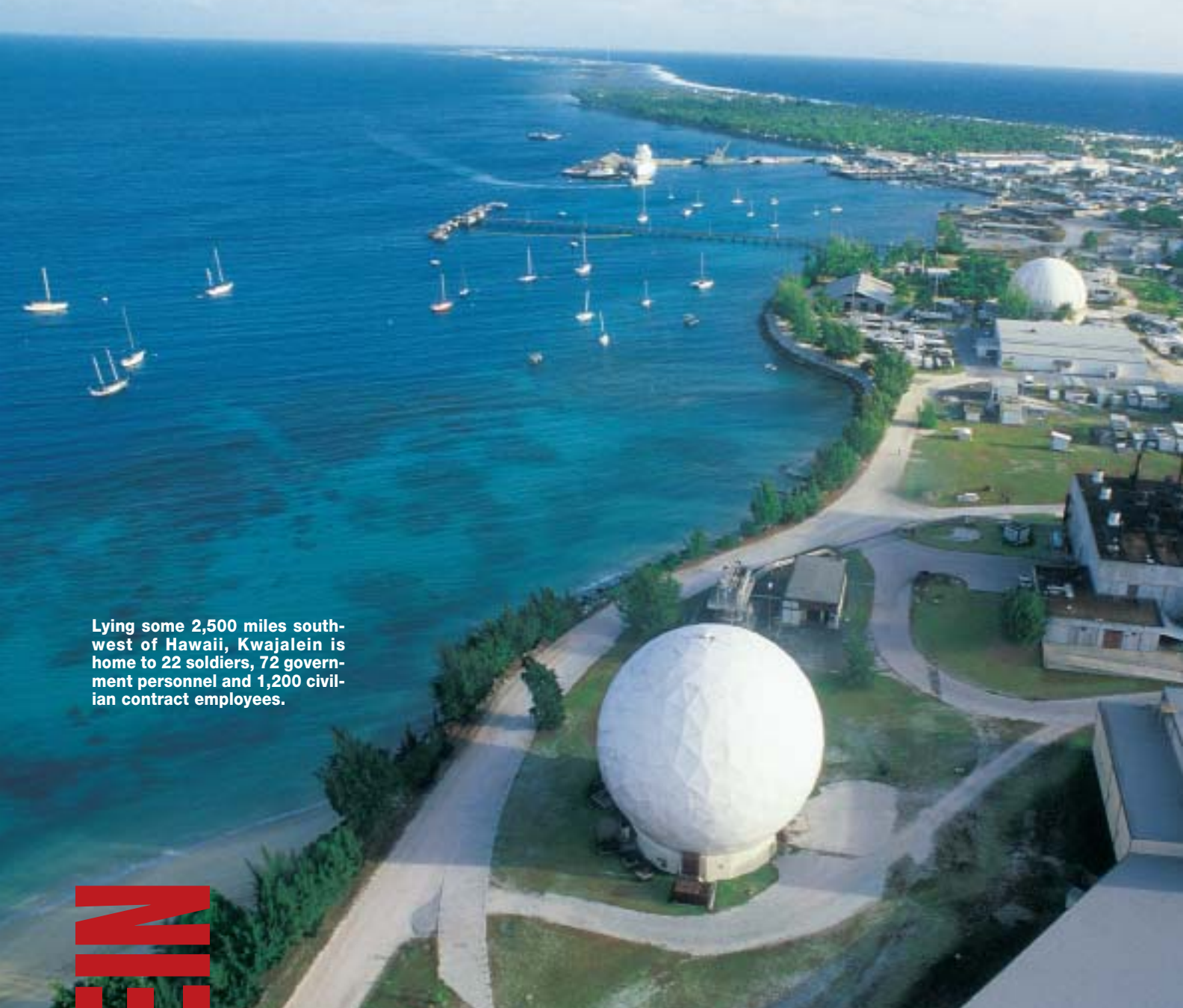


Story by Steve Harding

THIRTY-one minutes after blasting into space aboard a rocket launched from California, the simulated warhead died a spectacular death high above the Pacific Ocean. Hit by an interceptor missile fired from a remote coral atoll, the sophisticated target was instantly reduced to small bits of useless space debris.

The successful mid-March destruction of the target vehicle marked a milestone in the United States' Ground-based Midcourse Defense program. It was also another in a string of successes for the soldiers and civilian employees of the nation's premier missile test range — the Ronald Reagan Ballistic Missile Defense Test Site, or RTS, on Kwajalein Atoll.

Lying some 2,500 miles southwest of Hawaii in the Republic of the Marshall Islands, the necklace-shaped string of coral outcroppings is home to both the U.S. government-owned, contractor-operated RTS and U.S. Army Kwajalein Atoll, or USAKA, part of the Army Space and Missile Defense Command in Huntsville, Ala. Both are



Lying some 2,500 miles southwest of Hawaii, Kwajalein is home to 22 soldiers, 72 government personnel and 1,200 civilian contract employees.

KWAJALEIN

headquartered on Kwajalein Island, at the southern end of the atoll, and together they employ 22 soldiers, 72 government personnel, 1,200 civilian contract employees and about 1,400 Marshallese workers.

The missions undertaken by the members of this diverse community are of immense strategic importance, said USAKA commander COL Curtis L. Wrenn Jr.

“There is absolutely no doubt that Kwajalein is vital to the defense of the United States, and to the defense of the nation’s forward-deployed troops,” Wrenn said. “Our location and unique capabilities allow us to do missile

testing here that is done nowhere else, and we provide a range of important services to the nation.”

Open Spaces, Premier Sensors

The more than 100 small islands that make up Kwajalein Atoll are dispersed over some 1,100 square miles of ocean and encompass the world’s largest lagoon. Both attributes are important, said Steve Bell, an RTS scientist and spokesman.

“The size of the atoll allows us to spread our sensors around the various islands, which means that we can look

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Soldiers and civilians man the Mission Control Center on Kwajalein. From here, RTS personnel can monitor a wealth of information from a variety of sensors.

at each test from a number of angles and obtain a wider range of information,” Bell said. “It also means that bad weather rarely affects the entire area at the same time.”

The lagoon’s size also makes it an ideal “target” for incoming re-entry vehicles, he said.

“We can actually recover payloads that are targeted for the lagoon, where the maximum water depth is only about 200 feet. That would be done if the customer needs to recover the item for security reasons, or if they need to recover it for study,” Bell said.

On the other hand, if the customer doesn’t need to recover the item, or

wants it to be unrecoverable for security reasons, it can simply be targeted for areas outside the atoll, he said. The water depth there reaches 7,000 feet or more.

The atoll’s remoteness is also a plus, said LTC Steve Morris, USAKA’s director of plans, training and security.

“We’re outside the normal sea and air lanes, and this is a very sparsely populated area, so we don’t have the kind of safety issues that a Stateside site has,” Morris said. “We also don’t have the ‘frequency conflicts’ other ranges have to deal with, in that we don’t compete with radio or TV

stations, air-traffic control broadcasts or even garage-door openers. So we can provide a very ‘clean’ electronic environment for our customers.”

Not only is RTS ideally located for its mission, it is very well equipped in terms of instrumentation.

“We’re perhaps best known for our world-class suite of radars,” Bell said, “four on Roi Namur Island and two here on Kwajalein. In virtually every case our radars are the best in their class.

“And when you combine the radars with our optical sensors, telemetry receiving stations, impact-scoring assets, safety instrumentation and



The headquarters of U.S. Army Kwajalein Atoll is housed in the same building that is home to the airfield control tower and other administrative offices.

state-of-the-art Mission Control Center, we're easily the best-equipped facility of our type in the world," Bell said.

■ A Range of Missions

With USAKA providing administrative oversight and government management guidance, RTS undertakes a variety of space-related missions.

"Perhaps the best known of those is our support for the Ground-Based Midcourse Defense, or GMD, program," Morris said. "But we're heavily involved in a range of developmental and operational missile-systems testing."

The latter includes such things as support for the testing of intercontinental ballistic missiles, he said, which involves tracking the incoming inert re-entry vehicles of ICBMs fired from the United States.

"The arrival of the re-entry vehicles is particularly spectacular," Morris said. "It usually happens at night, and we can see the vehicles dropping out of the sky. It's a tremendous show, and we track them all the way in. They usually land in the lagoon,

though they can also be targeted to land on one of the uninhabited islands."

Kwajalein is also heavily involved in what are known as space-operations missions, Bell added. Indeed, the atoll's highly sophisticated radars and the technicians who operate them spend the majority of their time involved in space-operations taskings.

"Among the important missions we support is the cataloging of all man-made objects orbiting Earth," Bell said. "Our specialty is deep-space observation, meaning anything beyond about 2,000 kilometers from Earth."

"There are only three radars that do deep-space tracking as part of this mission, and two of them are here at RTS," he said. "So, we do the majority of the deep-space work. In a typical year we'll track and report on some 40,000 objects."

A related mission, Bell said, is called "new foreign launch support."

"Our location gives us the unique ability to track vehicles launched from Asia and South Asia," he said. "We're required to have our radar up and searching for the new launch within 15 minutes of a notification, and that happens about 25 times a year. It's

very challenging to look for an object that's never been tracked before, and we're very proud of the fact that for three years in a row we've achieved 100 percent success in acquiring the new foreign launches."

Another space-observation mission is called Space Object Identification. This process takes radar information from a very high-resolution sensor and refines it to obtain what amounts to a picture of the object. This might be used, for example, to determine if an inoperable satellite is damaged or simply doesn't have its solar panels deployed.

"We also participate in space shuttle missions," Bell said. "One of our radars on Roi Namur will track the space shuttle and pass that data on to NASA's mission control. We also provide telemetry and tracking services for various commercial space programs."

"As you can see," Morris added, "we're involved in a variety of very important and very challenging missions. We feel we're the best in the world at what we do, and the extremely positive feedback we get from our customers supports that belief."

■ In the Future

Not content to rest on their laurels, the people of USAKA and RTS are

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always looking for ways to improve Kwajalein's capabilities, Morris said.

"RTS is a business and, like any other business, we have to continually improve our capabilities and lower our costs if we want our customers to keep coming back," he said. "That means we are continually looking for better and less-expensive ways to do what we do."

A key aspect of that improvement effort is the ongoing modernization of RTS's sensors.

"We're about 75 percent done with a complete modernization of all the radars on Roi Numur," Morris said. "By using commercial, off-the-shelf technology we can improve the radars' performance and increase their capabilities. We'll also eventually be able to operate the systems remotely."

The modernization will significantly reduce the number of people required to operate and maintain the radars, Morris said, thus reducing both personnel costs and the costs associated with transporting operators and maintainers to and from those islands each day [*see accompanying story*].

"This is just one aspect of our continuing effort to ensure that Kwajalein remains the nation's premier missile-testing site," Morris said. "Everyone who works here — military and civilian, American and Marshallese — is dedicated to that goal." □

A contract range worker removes protective tape from the interceptor missile before launch. RTS has had a string of successes in the GMD program.

Michael L. Gail





Beautiful sunsets are a benefit of life on Kwaj, whose remoteness ensures that residents enjoy a small-town quality of life now rare in many U.S. communities.

Island Life

Story by Steve Harding



More Than Rocket Science

ASK Kwajalein's residents for the one word that best sums up daily life on the remote atoll, and the most common response is "unique."

"Sure, we know that's an overused word," said LTC Steve Morris, director of plans, training and security for U.S. Army Kwajalein Atoll. "But this is one of the places where it really applies."

"Look at it from our perspective," Morris said. "This is a tremendously diverse community. We have everything from rocket scientists to janitors to teachers to medical personnel to



The absence of private vehicles on Kwaj means everyone rides a bike, which lends the island's small "downtown" area a relaxed atmosphere — except during the far-busier afternoon "rush hour."

shipboard cargo containers on each trip."

A Real Community

The same factor that makes Kwajalein such a wonderful location for a missile test site — its remoteness — also ensures that the people who call the island home have a very real sense of community, said Nathaniel Jackson Jr., the civilian captain of one of Kwajalein's Army vessels and a longtime resident of the island.

"In many ways, this is like a small town from a long time ago," Jackson said. "Everyone rides a bike, because there aren't any private cars, and the island is so small that you practically know everyone. As a result, we tend to bond together in ways that people in large stateside communities don't."

"Our sense of community is in many ways a throwback to an earlier, simpler time," Morris agreed, "and it helps make Kwajalein a great place to raise kids. Everyone knows and looks out for each other, our schools are outstanding and we have an extremely

retail workers. They're military and civilian, American and Marshallese, adults and children."

Moreover, Morris said, though Kwajalein is a military installation it has just 22 soldiers assigned, and it doesn't have the usual facilities associated with an Army post.

"We run our own hospital without assistance from an Army medical activity, and we run our own schools without help from the Department of Defense school system," he said. "Through the contractor, the USAKA commander also runs his own airline,

his own port, his own retail outlets, his own Customs facility and his own emergency services."

And few other installations are faced with the logistical challenges with which Kwajalein must contend, Morris said.

"If we can't grow it or pull it out of the ocean, we have to import it," he said. "Three times a week an Air Mobility Command transport brings in fresh fruit, vegetables, milk, mail and critical parts. The rest of the things we need come in once a month aboard a barge that carries an average of 130



K.W. Hillis

A Kwajalein-based physician examines a Marshallese child on nearby Ebeye Island during a medical goodwill visit.

low crime rate. And, of course, it doesn't hurt that we have some of the best weather and best recreation opportunities anyone could ask for."

Off Duty

Though barely 2 1/2 miles long and just a 1/2 mile wide, Kwajalein Island offers a surprising range of recreational choices.

The golf course and small-boat marina are the residents' preferred recreational venues, Morris said, followed by the sheltered beaches that line the small island's northern, lagoon-facing side.

For the more adventurous, Kwajalein offers some of the best diving in the world, said Peter Rejcek, associate editor of the island's community newspaper.

"The diving here is just spectacular

The Soldier Perspective

Story by Steve Harding

LIKE virtually all of the 22 soldiers assigned to U.S. Army Kwajalein Atoll, SFC Donell Jones has mixed feelings about duty on a small island in the middle of the Pacific Ocean.

"I've been on Kwaj for almost four years," said Jones, USAKA's provost sergeant, "and for soldiers there are both advantages and disadvantages to being assigned here."

The biggest plus, Jones said, is that Kwaj gives soldiers something they rarely get elsewhere.

"Here on Kwajalein you get lots of time with your family," he said. "As an MP I used to deploy all the time, but that's not a problem here. Every day I

get to help my kids with their homework, and watch them play baseball and soccer. This is a very family oriented assignment, and you have to just enjoy it to the fullest, because you know that wherever you go next, you'll probably be deployed."

Along with the quality family time, Jones said, comes the chance to enjoy Kwaj's many recreational

SGT Chris Hansen



MAJ Matt Reed, one of the 22 soldiers who make up U.S. Army Kwajalein Atoll, pre-flights a UH-1 before a flight to nearby Meck Island.

opportunities — everything from sailing and diving to group sports and time on the island's beaches.

"This is a beautiful place," Jones said, "and there's a lot to do. And you really get to know the other people on Kwaj, so there's a real sense of community. That's a good thing, especially way out here in the Pacific."

The fact that Kwajalein is so far from

for both beginners and the more experienced,” Rejcek said. “It’s really no wonder why our dive club is the world’s largest in terms of active members.”

Kwajalein’s location also makes it an ideal jumping-off point for travel throughout the Pacific and Asia, an opportunity that many island residents take advantage of, Morris said.

“We work hard, but we play hard, too,” Morris said. “When we get the chance to relax — whether on the island or off — we take it. I tell my

friends back in the States that after work here we do what they do on their weekends. On the weekends here, we do what other people do on vacation.”

Quality of Life

The recreation opportunities on Kwajalein are just another part of a lifestyle that USAKA makes every effort to maintain at the highest possible level, Morris said, both

because Kwaj’s residents deserve the best and because personnel turnover can be an expensive and time-consuming proposition.

“There isn’t a huge labor pool out here in the middle of the ocean,” he said. “So it’s very difficult for us to recruit scientific and professional workers, and it’s terribly expensive to replace someone. It takes a lot of time and money to bring someone here, and we recognize that quality of life plays a large role in keeping people here.

(continued on next page)



SFC Jacqueline Chatman (left), NCOIC of the Kwajalein post office, and SGT Elizabeth Flores sort some of the 1 million packages that arrive on the island each year. Soldiers play a key role in Kwaj’s postal operations, which directly affect all residents.

anywhere else is also a big part of the downside to duty on the atoll.

“As soldiers, living here on Kwaj means we’re a long way from the rest of the Army,” Jones said. “When you’ve been here for a while, you can start to feel like you’re a little out of touch.”

That’s a sentiment shared by most USAKA soldiers, said the organization’s commander, LTC Curtis L. Wrenn Jr.

“This is truly a wonderful place, but the fact is that we’re 7,000 miles

from our headquarters,” Wrenn said. “That can impede the normal operations of a military unit.

“For example,” he said, “even though we have e-mail, fax and telephone, we still lose something in terms of the fidelity of communication being this far out. And, of course, our planning lead times for things like personnel rotations are considerably more involved than they are for most other installations.”

In one sense, though, being so far from the flagpole can be good for

soldiers, said USAKA 1SG Leroy P. Balag.

“The Army here on Kwaj is ‘one deep,’ meaning that each soldier has a specific job to do and there’s not a second or third soldier in line as back-up,” Balag said.

“So each of our soldiers has to be self-driven and very motivated,” he said. “They have to be the subject-matter expert in their field, and they have to be able to anticipate possible problems and apply solutions very quickly.

“Duty here also gives soldiers an appreciation for the important work done by civilians,” Balag said.

“Because this is a government-owned, contractor-operated installation, much of the work is done by civilians. And because the civilians are so good at what they do, it can really be an eye-opener for soldiers who’ve never seen that side of the Army.

“The bottom line about serving on Kwajalein is that this is a very close community that includes both soldiers and civilians, and we all take care of each other because we understand that we have to rely on ourselves,” Balag said. “That sense of community is something you don’t often find in big cities back in the States, or even on large military installations. This is a very special place.” □



Though remote in every sense of the word, Kwajalein evokes such a positive sense of community that many residents choose to stay for years past their initial contract obligations.

“And we must be doing something right,” he said, “because 68 percent of our workforce has been here for more than seven years.”

It probably helps, of course, that U.S. contractor employees don’t have to pay U.S. federal income taxes, just their part of the Social Security tax and a 5-percent Marshalllese income tax, Morris said. In addition, many employees get free housing, meals, utilities and maintenance on their quarters. And since there are no cars, there are no car payments or car-insurance premiums.

“In the end, though, what keeps people here and what makes this such a great place to live is the shared sense of purpose,” said Wrenn. “We all know why we’re here, and we know that what we do is important to the nation. It’s that simple.” □

Island Life

Ach, the Pipes!

WHEN you think of ways to spend off-duty time on a Pacific island, playing the bagpipes probably doesn’t immediately come to mind. But for Greg Horner and the other members of the Kwajalein Pipes & Drums, it’s the ideal way to both relax and provide a much-appreciated service to the community.

“The Pipes & Drums have been around for quite a while,” said Horner, a quality analyst with the Reagan Test Site’s Information Technology Division and the band’s pipe major. “We enjoy each other’s company, and we also play a big role in this community because we perform at all sorts of events. We’re always made very welcome and we’re honored, especially when we play at the Veterans Day observance, which has a particularly powerful significance here.”

The members of the band are drawn from every organization represented on the island — both military and civilian.

“We’ve often remarked on the fact that we wouldn’t have this combination of people in a group like this if it weren’t for the band,” Horner said. “This is a real tight group, and that’s not always the way in other musical endeavors.”

Like most of those who come into the group, Horner had no prior musical experience.

“Teaching the pipes is just something that gets passed on,” he said, “so each new member of the band learns the pipes from scratch. But most of us are so highly motivated that we quickly overcome that initial lack of musical experience.”

The band practices in the VFW Hall near the island’s western end, just to the north of the runway. Relatively isolated, it is an ideal place to practice, Horner said, given that not everyone appreciates the “unique” sound of the pipes, especially when they’re being played by a beginner.

“True, our practice sessions may not be real popular with some people,” he said, smiling. “But when we play at a community event, the shrilling of the pipes and the rhythms of the drums get them every time.” — *Steve Harding*



Members of the Pipes & Drums — a group with both social and community roles on Kwaj — rehearse a tune during an evening practice session.

By Air and by Sea



The three contractor-operated Raytheon-Beech 1900s of Kwaj's "airline" carry some 100 workers to and from Roi Namur each day.



Each day LCM-8 landing craft equipped with sun awnings shuttle Marshallese workers from nearby Ebeye Island to and from their jobs on Kwajalein.

Story and Photos by Steve Harding

WHILE the size of Kwajalein Atoll's lagoon and the distance between its islands make for better missile testing, they also pose some significant logistical challenges.

"We've got operations and facilities spread across this vast atoll," said LTC Steve Morris, U.S. Army Kwajalein Atoll's director of plans, training and security. "That means we have a

substantial intra-atoll transportation requirement, in terms of moving people, equipment and supplies.

"For example, we have about 100 accompanied employees who live on Kwajalein but work on Roi Namur, 48 miles to the north," Morris said. "And no one lives fulltime at our launch facility on Meck, about 25 miles to the northeast, so everybody who works there has to commute each day. And

our Marshallese workers have to come from Ebeye, which is less than half a mile from Kwaj but is separated from it by open water.

"Besides having to move quite a few people each day," Morris said, "we also have to transport a significant amount of equipment and supplies. That entails hauling everything from fuel and fresh water to missile components and heavy construction machinery."

Over the years, the need to move people and cargo among the islands that make up the Reagan Test Site — and do it efficiently and cost-effectively — has led to the development of what Morris called "Kwaj's own airline and shipping company."

Kwaj Air

Newcomers might easily mistake Kwajalein Island's Bucholz Army Air Field for a civilian airport, for every



carry on each flight.

"That's where our Marine Department comes in," said CW3 Ron Kurth, USAKA's marine engineer evaluator.

"Our 17 Army-owned, contractor-operated watercraft do the jobs that the aircraft can't do, like carrying heavy or bulky cargo, and those that it wouldn't be cost-effective for the planes to do, like carrying large groups of people over fairly short distances," Kurth

said. "They also provide range-safety services and carry bulk cargoes of fuel and fresh water."

Perhaps the busiest watercraft in the Kwaj fleet, Kurth said, are the five LCM-8 landing craft that shuttle Marshallese workers back and forth between Ebeye and Kwajalein every day.

USAKA's other passenger vessels are the passenger ferry catamarans *Jera* and *Jelang K*. The only watercraft of their type in Army service, these high-speed ships can each carry up to 200 people on daily runs between

Nathaniel Jackson Jr., captain of the *Great Bridge*, brings the vessel in toward a Kwajalein beach to offload heavy equipment carried from Meck Island. The 17 Army vessels that make up Kwaj's "navy" are all contractor-operated.

day the field echoes to the seemingly continuous arrival and departure of fixed-wing passenger aircraft and helicopters.

Kwaj's fixed-wing fleet consists of three contractor-owned and operated Raytheon-Beech 1900 twin-turboprops, which run daily 19-person shuttle flights to Roi Namur. Each day the 1900s carry workers to and from that island's Dyess AAF, RTS's only other runway, with a regularity any civilian airline would envy.

"Though the Roi Namur shuttle is the 1900s' primary mission, they'll also occasionally make longer flights to places like Kiribati," said MAJ Matthew Reed, USAKA's director of logistics and government flight representative. "These aircraft are much more efficient than those they replaced, and a lot more comfortable to fly in, too."

To transport smaller groups of workers to those islands that aren't large enough to have runways, USAKA relies on four Army-owned UH-1 helicopters flown by contract pilots.

"The Hueys will go to places like Meck, Illeginni and Ennylabegan," Reed said, "carrying up to 11 passengers on each flight. They'll also take smaller pieces of cargo, if there's room."

Besides their personnel-transport role, the venerable Hueys are also called on to undertake medical-evacuation missions.

"We'll medevac members of the Kwaj workforce from Roi Namur or Meck islands at any time, 24 hours a day," Reed said, "and two of the helicopters are fitted with spotlights for use during nighttime evac missions."

"We also do medevac missions for Marshallese on some of the outer islands," added CW4 Brent Hobbach, USAKA's aviation safety officer. "The hospital on Kwaj is the only medical facility for hundreds of miles, and we go out and pick them up in emergencies."

USAKA's "Navy"

As capable as USAKA's aircraft are, they are limited in the amount of cargo and number of people they can

Passengers on a UH-1 shuttle flight settle in for the trip to Meck Island. The four Army-owned, contractor-operated Hueys can also carry small cargo loads, as well as undertaking medical-evacuation missions.



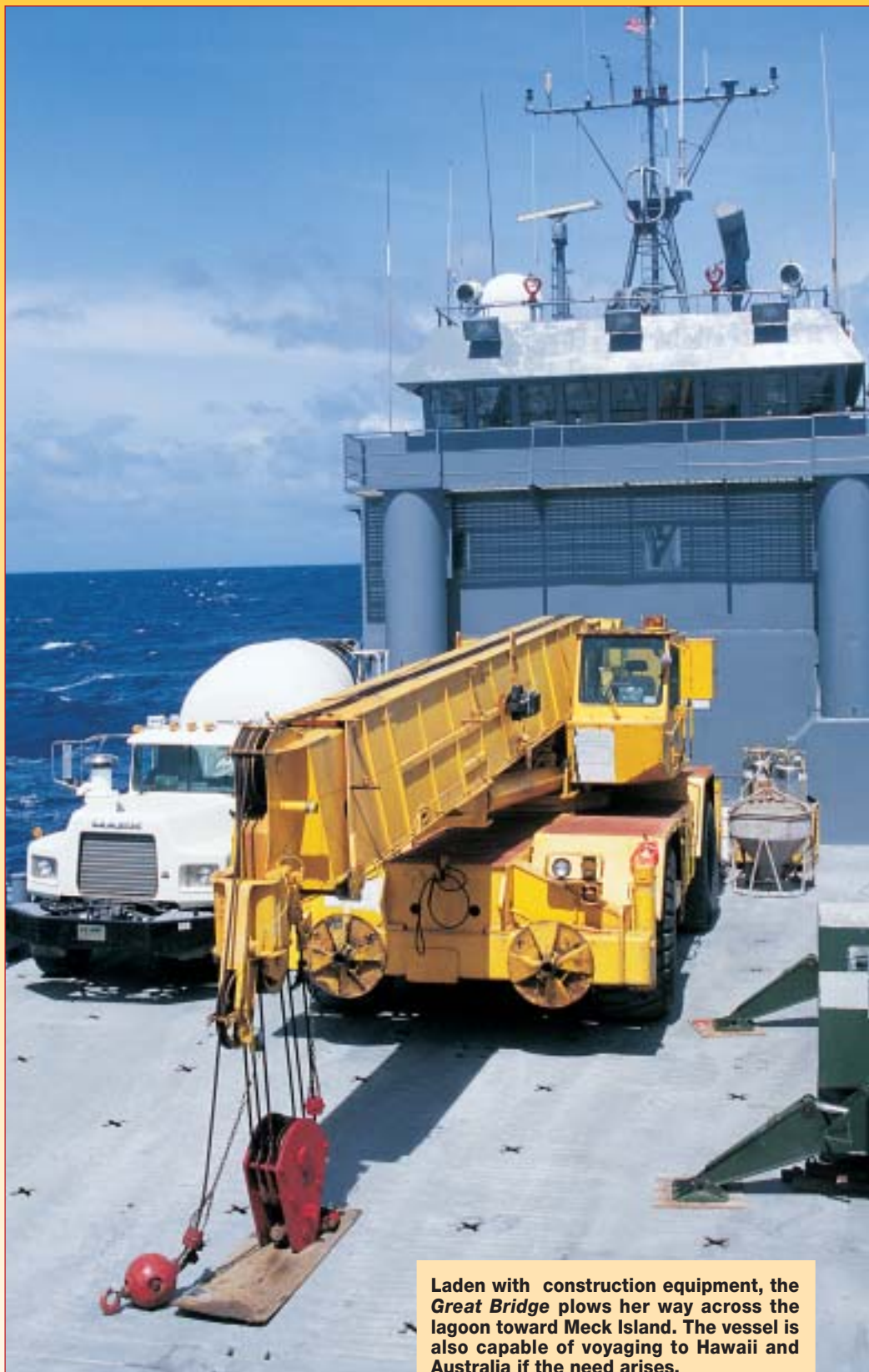
Kwajalein and the outlying islands of Meck and Roi Namur.

The largest vessels USAKA operates are the antenna-laden range-safety ship *Worthy*, the ocean-going tugs *Condor* and *Mystic*, the LCU 1600-class landing craft, utility, *Manassas* and the larger LCU 2000-class *Great Bridge*. The latter is USAKA's heavy-lift vessel of choice, said its civilian captain, Nathaniel Jackson Jr.

"If it's big and heavy, we move it," Jackson said. "We'll transport things like vehicles, forklifts, cranes and other outsize cargo between the various islands. And when our size gets in the way, such as when the water at a particular place is too shallow for us to get in, the *Manassas* does the job."

That commitment to getting the job done is typical of the Marine Department, Jackson said.

"We're not here just to move people and cargo," he said. "When we take someone somewhere, we assist them in whatever way we can. We're always happy to help." □



Laden with construction equipment, the *Great Bridge* plows her way across the lagoon toward Meck Island. The vessel is also capable of voyaging to Hawaii and Australia if the need arises.